PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Tokio OOI et al.

Group Art Unit: 1793

Application No.: 10/771,380

Examiner: S. HENDRICKSON

Filed: February 5, 2004

Docket No.: 118520

For: PROCESS FOR PRODUCING ACTIVATED CARBON

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This request is being filed with a Notice of Appeal. Review of the October 30, 2009 Final Rejection is requested for the reasons set forth in the attached five or fewer sheets.

Should any questions arise regarding this submission, or the Review Panel believe that anything further would be desirable in order to place this application in even better condition for allowance, the Review Panel is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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Date: February 1, 2010

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REMARKS

Claims 1-5 and 7-19 are pending in this application. The Office Action rejects claims 13 and 19 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. This rejection is respectfully traversed.

Claims 13 and 19 reciting that the organic compound is gasified before adsorbing is not facially indefinite. Further, gasifying the organic compound does not prohibit mixing the organic compound with the activated carbon based on the Office Action's interpretation that mixing constitutes contacting. *See* Office Action, page 2. Thus, claims 13 and 19 are not indefinite and reconsideration and withdrawal of the rejection are respectfully requested.

The Office Action rejects claims 1, 3, 5, 7, 8, 10, 12-14, 16, 18 and 19 under 35 U.S.C. §103(a) over U.S. Patent No. 3,638,399 (Walker) in view of U.S. Patent No. 5,466,645 (Hayden). This rejection is respectfully traversed.

Walker and Hayden would not have rendered obvious the combinations of features recited in claims 1, 8 and 14, including the variously recited feature of "desorbing the organic compound from the activated carbon by heating the organic compound and the activated carbon at a temperature higher than the boiling point of the organic compound to selectively close most of pores of the activated carbon with a diameter less than 20 Å," as recited in claims 1 and 14, and " . . . selectively close pores of the activated carbon with a diameter less than 20 Å," as recited in claim 8.

Rather, Walker discloses a process for purifying acetylene-containing pyrolysis gases and regenerating activated carbon used in the purifying process (Abstract). A pyrolysis gas stream passes through a column packed with activated carbon to adsorb components of the pyrolysis gas onto the carbon (C1:L42-47). Walker discloses adsorbing the components of the pyrolysis gas solely for removing the components from the pyrolysis gas.

Walker discloses that the activated carbon preferably has at least 50 percent of the pores with diameters greater than 25 Å (C2:L41-46). However, Walker fails to disclose the distribution of the pores that are closed with an organic compound after the components are adsorbed and desorbed on the carbon.

Walker discloses that the activated carbon is reactivated by heating it with steam or inert flue gas at a temperature of 150°C to 500°C (C1:L72-75) or more substantially reactivated by heating the activated carbon to temperatures of 700°C to 1,100°C (C2:L10-15). However, Walker fails to disclose the distribution of the pores that are closed with an organic compound after the reactivation.

Based on the above, Walker discloses heating the activated carbon for reactivating the carbon which requires that the pores become free of the organic compound, not that most of the pores with a diameter less than 20 Å are closed with the organic compound.

The Office Action concedes that Walker does not disclose closing the diameters of certain pores of the activated carbon because the Office Action does not specifically address where Walker discloses this feature. *See In re Angstadt et al.*, 190 USPQ 214 (CCPA 1976) (requiring that all positively recited features of a claim must be addressed in an Office Action)). Rather than addressing the recited feature, the Office Action merely asserts that "[n]o differences are seen in the carbon or the effect of the treatment" (Office Action, page 2). As explained in MPEP §706.02, "a reference used under 35 U.S.C. §102 "must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present." Since Walker does not explicitly disclose this feature, the rejection must be relying on a theory of inherency. However, MPEP §2112 states that the Patent Office must provide rationale or evidence tending to show inherency. Citing *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1990), MPEP §2112 states, "[i]nherency ... may not be established by probabilities or possibilities. The mere fact that a certain thing may result

from a given set of circumstances is not sufficient." Additionally, citing *Ex Parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990), §2112 states, "[i]n relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art" (emphasis in original). This standard is simply not met here. Accordingly, Walker fails to disclose the above-recited feature.

Hayden does not cure the above deficiencies of Walker. Rather, Hayden merely discloses cooling nitrogen-treated carbonaceuous char in an inert gas. Therefore, claims 1, 8 and 14 is allowable over Walker in view of Hayden. Claims 3, 5, 7, 10, 12, 13, 16, 18 and 19 are also allowable over Walker in view of Hayden for at least the same reasons as claims 1, 8 and 14, as well as the for the additional features the claims recite. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

The Office Action rejects claims 1-5, 8-12 and 14-18 under 35 U.S.C. §103(a) over *Control of Micropores of Molecular Sieving Carbon by Impregnation of Hydrocarbons and Heat Treatment* by Nakano et al. (Nakano) in view of Hayden. This rejection is respectfully traversed.

Nakano and Hayden would not have rendered obvious the combination of features recited in claims 1, 8 and 14, including the above-quoted features from these claims.

As discussed in Nakano, pyrolysis gas is exposed to activated carbon at a temperature of 1223 K, and is at the same time adsorbed onto the activated carbon at the high temperature (Nakano, Table 1). The temperature of the pyrolysis gas exceeds the boiling point of naphthalene based on the temperature during the adsorbing being 1223 K, with the boiling point of naphthalene being 218°C (491.15 K). Because the adsorption occurs in Nakano at the high temperature, naphthalene does not sufficiently enter the pores of the activated carbon.

Further, Nakano discloses the one step of contacting the pyrolysis gas at the high temperature of 1223 K with the activated carbon. Nakano does not disclose contacting the activated carbon with the organic compound and then heating the activated carbon with the adsorbed pyrolysis gas organic compounds high than the boiling point.

Further, the Office Action concedes that Nakano does not disclose closing the diameters of certain pores of the activated carbon because the Office Action does not specifically address where Nakano discloses this feature. *See In re Angstadt et al.*, 190 USPQ 214 (CCPA 1976) (requiring that all positively recited features of a claim must be addressed in an Office Action)). As discussed above regarding Walker, rather than addressing the above-recited feature, the Office Action merely asserts that that it would have been obvious given the disclosure of the process in Nakano (Office Action, page 2). Thus, the Office Action's rejection relies on the above-recited feature being inherent in Nakano. However, for the same reasons asserted above, the Office Action has not established that the above-recited feature would necessarily flow from the process disclosed in Nakano. Accordingly, Nakano fails to disclose the above-recited feature.

Hayden does not cure the above deficiencies of Nakano for the same reasons discussed above regarding Walker. Therefore, based on the foregoing, claims 1, 8 and 14 are allowable over Nakano in view of Hayden. Claims 2-5, 9-12 and 15-18 are also allowable over Walker in view of Hayden for at least the same reasons as claims 1, 8 and 14, as well as the for the additional features the claims recite. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Applicants respectfully submit, therefore, that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-5 and 7-19 are earnestly solicited.